

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
WACO DIVISION**

WSOU INVESTMENTS, LLC d/b/a  
BRAZOS LICENSING AND  
DEVELOPMENT,

Plaintiff,

V.

ZTE CORPORATION, ZTE (USA)  
INC., AND ZTE (TX), INC.

Defendants.

CIVIL ACTION NO. 6:20-cv-491-ADA

## JURY TRIAL DEMANDED

# FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff WSOU Investments, LLC d/b/a Brazos Licensing and Development (“Brazos” or “Plaintiff”), by and through its attorneys, files this First Amended Complaint for Patent Infringement (“Complaint”) against Defendants ZTE Corporation, ZTE (USA), Inc. and ZTE (TX), Inc. (collectively “ZTE” or “Defendants”) and alleges:

## NATURE OF THE ACTION

1. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. §§ 1, et seq., including §§ 271, 281, 284, and 285.

## THE PARTIES

2. Brazos is a limited liability corporation organized and existing under the laws of Delaware, with its principal place of business at 605 Austin Ave, Ste 6, Waco, TX 76701.

3. On information and belief, Defendant Zhongxing Telecommunications Equipment (abbreviated as “ZTE”) Corporation (“ZTE Corp.”) is a Chinese corporation that does business in Texas, directly or through intermediaries, with a principal place of business at ZTE Plaza, Keji Road South, Hi-Tech Industrial Park, Nanshan District, Shenzhen China.

4. On information and belief, Defendant ZTE (USA) Inc. is a New Jersey corporation that does business in Texas, directly or through intermediaries, with a principal place of business in business in Richardson, Texas.

5. On information and belief, Defendant ZTE (TX) Inc. is a Texas corporation that does business in Texas, directly or through intermediaries, with a principal place of business in business in Austin, Texas.

6. All of the Defendants operate under and identify with the trade name “ZTE.” Each of the Defendants may be referred to individually as a “ZTE Defendant” and, collectively, Defendants may be referred to below as “ZTE” or as the “ZTE Defendants.”

#### **JURISDICTION AND VENUE**

7. This is an action for patent infringement which arises under the Patent Laws of the United States, in particular, 35 U.S.C. §§271, 281, 284, and 285.

8. This Court has jurisdiction over the subject matter of this action under 28 U.S.C. §§ 1331 and 1338(a).

9. This Court has specific and general personal jurisdiction over each ZTE Defendant pursuant to due process and/or the Texas Long Arm Statute, because each ZTE Defendant has committed acts giving rise to this action within Texas and within this judicial district. The Court’s exercise of jurisdiction over each ZTE Defendant would not offend traditional notions of fair play and substantial justice because ZTE has established minimum contacts with the forum. For example, on information and belief, ZTE Defendants have committed acts of infringement in this judicial district, by among other things, selling and offering for sale products that infringe the asserted patent, directly or through intermediaries, as alleged herein.

10. Jurisdiction is also proper because ZTE Defendants place goods and/or services, including Accused Products, into the stream of commerce knowing they will end up in Texas. Indeed, ZTE Defendants take actions purposefully directed toward Texas to place goods and/or services into the stream of commerce here.

11. On information and belief, ZTE Corp. sells and/or licenses Accused Products directly to a company headquartered in Richardson, Texas—ZTE (USA) Inc.—and ships them to that company’s headquarters in Richardson, Texas.

12. On Information and belief, ZTE Corp. targets other Texas customers through ZTE (USA) Inc.’s website and ships Accused Products to customers in Texas.

13. ZTE Corp. specifically targets Accused Products at individuals and companies in Texas at least by selling and/or licensing Accused Products directly to ZTE (USA) Inc., a consumer and distributor of Accused Products manufactured by ZTE Corp., and by shipping Accused Products to ZTE (USA) Inc. for distribution in Texas.

14. On information and belief, ZTE Corp. assists ZTE (USA) Inc. with troubleshooting or other technical support of ZTE Corp. equipment sold in the United States, including Texas.

15. Both ZTE Corp. and ZTE (USA) Inc. have issued releases from Richardson, Texas marketing ZTE products, including Accused Products. These releases are hosted on ZTE Corp.’s website and include a “ZTE Corporation” copyright.

16. On November 20, 2019, ZTE (USA) Inc. issued a release from “RICHARDSON, Texas” advertising Black Friday Deals on several products, including Blade 10 and Axon 10 Pro. The release explains that “ZTE USA” is “headquartered in Richardson, Texas,” provides information to directly contact ZTE (USA) Inc. and indicates that “shoppers can enjoy free

shipping and easy 30 day returns for ZTE products at [www.zteusa.com](http://www.zteusa.com). The release is hosted on ZTE Corp.'s website and includes a "ZTE Corporation" copyright.

17. On October 15, 2019, ZTE Corp. issued a release from "RICHARDSON, Texas" announcing that Blade Vantage 2 would be available in "Verizon stores across the U.S." and would "operate on Verizon's national network."

18. On information and belief, most imports from ZTE Corp. to the United States are shipments to ZTE (USA) Inc.

19. On information and belief, most imports received by ZTE (USA) Inc. are imports from ZTE Corp.

20. On information and belief, ZTE Corp. regularly ships goods to ZTE (USA) Inc.'s headquarters at 2425 N Central Expressway in Richardson, Texas.

21. On information and belief, ZTE Corp. regularly ships goods to other addresses in Texas.

22. Venue in the Western District of Texas is proper pursuant to 28 U.S.C. §§1391 and/or 1400(b). The ZTE Defendants have committed acts of infringement and have places of businesses in this District and/or are foreign entities for purpose of §1391. As non-limiting examples, ZTE (TX) has maintained a place of business at 7000 N MO-PAC EXPRESSWAY 200 AUSTIN, TX 7873; and, ZTE (USA) has maintained a place of business at 6500 River Place Blvd., Austin, TX 78730. ZTE Corporation also describes a "research-and-development center in Austin, Texas."<sup>1</sup>

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<sup>1</sup> [https://res-www.zte.com.cn/mediare/magazine/publication/tech\\_en/pdf/201009.pdf](https://res-www.zte.com.cn/mediare/magazine/publication/tech_en/pdf/201009.pdf)

**COUNT ONE - INFRINGEMENT OF**  
**U.S. PATENT NO. 8,730,905**

23. Brazos re-alleges and incorporates by reference the preceding paragraphs of this Complaint.

24. On May 20, 2014, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,730,905 (“the ’905 Patent”), entitled “TRANSMISSION RESOURCE RESERVATION SCHEME.” A true and correct copy of the ’905 Patent is attached as Exhibit A to this Complaint.

25. Brazos is the owner of all rights, title, and interest in and to the ’905 Patent, including the right to assert all causes of action arising under the ’905 Patent and the right to any remedies for the infringement of the ’905 Patent.

26. ZTE makes, uses, sells, offers for sale, imports, and/or distributes, in the United States, communication devices, including hotspots, routers, switches, gateways, and phones supporting IEEE 802.11ac (collectively, the “Accused Products”).

27. The Accused Products include hotspots, including AT&T Velocity 2, MF923, and Z915; routers, including the Z700A; switches, including the ZXWE A5224; gateways, including the ZXHN F2867S; and phones, including Axon 10 Pro.

28. The Accused Products implement the IEEE 802.11ac standard for Wireless Communication (Wi-Fi).

<b>Battery</b>	4000mAh [typical], Qualcomm®Quick Charge™ 4+, wireless charging v3.0
<b>Memory</b>	8GB or 12GB RAM + 256GB ROM Expandable Storage (up to 2 TB via Micro SD memory card*)
<b>Display</b>	6.47" quad curved 3D AMOLED screen, FHD+(2340x1080)
<b>Features</b>	In-display fingerprint, Dual super linear speaker, DTS:X® Ultra , Hi-Fi, Face ID, NFC, GPS/A-GPS /Galileo, 802.11a/b/g/n/ac, 2.4 GHz/5 GHz, BT 5.0
<b>OS</b>	Android P (upgrading to Android 10 by end of calendar 2019)

<https://www.zteusa.com/axon10pro>.

Expandable	supports up to 128GB microSDHC™ card
Frequencies	LTE Bands 2, 4, 5, 12, 29, 30, 66 - UMTS 850/1900/1700 MHz
Wi-Fi	802.11 a/b/g/n/ac
Total Number of Connected Users	Up to 10 Wi-Fi Devices

<https://www.zteusa.com/products/mobile-broadband/att-velocity-2>.

29. The Accused Products implements the IEEE 802.11ac standard for wireless communication, allowing a first wireless device to communicate with a second wireless device.

30. The Accused Products provides a feature of Bandwidth Signaling under Dynamic Bandwidth Operation. Dynamic Bandwidth Operation employs Request To Send (RTS) and Clear To Send (CTS) frames to negotiate bandwidth.

31. A first 802.11ac device duplicates an RTS frame and send sit to another 802.11ac device on channels that are to be reserved for the time slot of transmission. The RTS frame is embedded with the bandwidth signaling transmitter address field indicating the request of reservation. The first 802.11ac device sends the duplicated RTS frame when holding the

transmission opportunity (TXOP).

#### **10.3.2.6 VHT RTS procedure**

A VHT STA transmitting an RTS frame carried in non-HT or non-HT duplicate format and addressed to a VHT STA shall set the TA field to a bandwidth signaling TA and shall set the TXVECTOR parameters CH\_BANDWIDTH\_IN\_NON\_HT and CH\_BANDWIDTH to the same value. If the STA sending the RTS frame is capable of dynamic bandwidth operation (see 10.3.2.7), the STA shall set the TXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT to Dynamic. Otherwise, the STA shall set the TXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT to Static.

A VHT STA that initiates a TXOP by transmitting an RTS frame with the TA field set to a bandwidth signaling TA shall not send an RTS frame to a non-VHT STA for the duration of the TXOP.

NOTE—A non-VHT STA considers the bandwidth signaling TA as the address of the TXOP holder. If an RTS frame is sent to a non-VHT STA during a TXOP that is initiated by an RTS frame with a bandwidth signaling TA, the non-VHT STA does not recognize the RTS sender as the TXOP holder.

<https://ieeexplore.ieee.org/document/7786995> (Page 1313).

32. IEEE 802.11ac provides secondary channels, including a secondary 20MHz channel, Secondary 40MHz Channel, and Secondary 80MHz Channel.

A STA that receives an RTS frame addressed to it considers the NAV in determining whether to respond with CTS, unless the NAV was set by a frame originating from the STA sending the RTS frame (see 10.22.2.2). In this subclause, “NAV indicates idle” means that the NAV count is 0 or that the NAV count is nonzero but the nonbandwidth signaling TA obtained from the TA field of the RTS frame matches the saved TXOP holder address.

A VHT STA that is addressed by an RTS frame in a non-HT or non-HT duplicate PPDU that has a bandwidth signaling TA and that has the RXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT equal to Static behaves as follows:

- If the NAV indicates idle and CCA has been idle for all secondary channels (secondary 20 MHz channel, secondary 40 MHz channel, and secondary 80 MHz channel) in the channel width indicated by the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT for a PIFS prior to the start of the RTS frame, then the STA shall respond with a CTS frame carried in a non-HT or non-HT duplicate PPDU after a SIFS. The CTS frame’s TXVECTOR parameters CH\_BANDWIDTH and CH\_BANDWIDTH\_IN\_NON\_HT shall be set to the same value as the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT.
- Otherwise, the STA shall not respond with a CTS frame.

A VHT STA that is addressed by an RTS frame in a non-HT or non-HT duplicate PPDU that has a bandwidth signaling TA and that has the RXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT equal to Dynamic behaves as follows:

- If the NAV indicates idle, then the STA shall respond with a CTS frame in a non-HT or non-HT duplicate PPDU after a SIFS. The CTS frame’s TXVECTOR parameters CH\_BANDWIDTH and CH\_BANDWIDTH\_IN\_NON\_HT shall be set to any channel width for which CCA on all secondary channels has been idle for a PIFS prior to the start of the RTS frame and that is less than or equal to the channel width indicated in the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT.
- Otherwise, the STA shall not respond with a CTS frame.

<https://ieeexplore.ieee.org/document/7786995> (Page 1313).



Duplicate frames are used to create dynamic bandwidth signaling in 802.11ac. Even if a network is occupying, say, 80 MHz of spectrum, it will send Beacon frames and carry out access control on its primary channel. It may interact with older 802.11a stations on its primary 20 MHz channel and 802.11n stations on its primary 40 MHz channel, and only occasionally transmit frames using the full 80 MHz bandwidth. For much of the time, a network will not need its full bandwidth. Therefore, 802.11ac extended the RTS and CTS to add *bandwidth signaling*. Normally, an RTS or CTS frame only works to clear the channel on which it is transmitted. When it is used in duplicate mode to clear out multiple channels simultaneously, this is indicated by setting the Individual/Group bit in the transmitter address to 1, and the address is called a *bandwidth signaling transmitter address*.

Figure 3-8 shows how the RTS and CTS work together to negotiate the bandwidth. The initiator of a frame transmission has a frame to transmit, and would like to transmit that frame over the full 80 MHz shown in the diagram. To acquire the channel, it sends a duplicated RTS frame across all four 20 MHz channels, indicating that it would like to acquire the whole channel. In Figure 3-8(a), the receiver performs a clear-channel assessment, finds that the entire 80 MHz channel is free, and sends a CTS indicating so. As a result of the exchange, the NAV, shown in the bottom of the picture, is set on all four channels so that any other networks will defer transmission.

[http://euro.econ.cmuc.edu/resources/elibrary/auto/802dot11ac\\_A\\_Survival\\_Guide.pdf](http://euro.econ.cmuc.edu/resources/elibrary/auto/802dot11ac_A_Survival_Guide.pdf) (Page 69).

33. The second 802.11ac device conducts a Clear Channel Assessment (CCA) and checks if the required channels are idle for a particular amount of time before receiving the RTS frame. Also, the Network Allocation Vector (NAV) is checked if idle or the channel has been already reserved. Thus, the second 802.11ac device monitors for the availability of a secondary

channel.

A STA that receives an RTS frame addressed to it considers the NAV in determining whether to respond with CTS, unless the NAV was set by a frame originating from the STA sending the RTS frame (see 10.22.2.2). In this subclause, “NAV indicates idle” means that the NAV count is 0 or that the NAV count is nonzero but the nonbandwidth signaling TA obtained from the TA field of the RTS frame matches the saved TXOP holder address.

A VHT STA that is addressed by an RTS frame in a non-HT or non-HT duplicate PPDU that has a bandwidth signaling TA and that has the RXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT equal to Static behaves as follows:

- If the NAV indicates idle and CCA has been idle for all secondary channels (secondary 20 MHz channel, secondary 40 MHz channel, and secondary 80 MHz channel) in the channel width indicated by the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT for a PIFS prior to the start of the RTS frame, then the STA shall respond with a CTS frame carried in a non-HT or non-HT duplicate PPDU after a SIFS. The CTS frame’s TXVECTOR parameters CH\_BANDWIDTH and CH\_BANDWIDTH\_IN\_NON\_HT shall be set to the same value as the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT.
- Otherwise, the STA shall not respond with a CTS frame.

A VHT STA that is addressed by an RTS frame in a non-HT or non-HT duplicate PPDU that has a bandwidth signaling TA and that has the RXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT equal to Dynamic behaves as follows:

- If the NAV indicates idle, then the STA shall respond with a CTS frame in a non-HT or non-HT duplicate PPDU after a SIFS. The CTS frame’s TXVECTOR parameters CH\_BANDWIDTH and CH\_BANDWIDTH\_IN\_NON\_HT shall be set to any channel width for which CCA on all secondary channels has been idle for a PIFS prior to the start of the RTS frame and that is less than or equal to the channel width indicated in the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT.
- Otherwise, the STA shall not respond with a CTS frame.

<https://ieeexplore.ieee.org/document/7786995> (Page 1313).

Duplicate frames are used to create dynamic bandwidth signaling in 802.11ac. Even if a network is occupying, say, 80 MHz of spectrum, it will send Beacon frames and carry out access control on its primary channel. It may interact with older 802.11a stations on its primary 20 MHz channel and 802.11n stations on its primary 40 MHz channel, and only occasionally transmit frames using the full 80 MHz bandwidth. For much of the time, a network will not need its full bandwidth. Therefore, 802.11ac extended the RTS and CTS to add *bandwidth signaling*. Normally, an RTS or CTS frame only works to clear the channel on which it is transmitted. When it is used in duplicate mode to clear out multiple channels simultaneously, this is indicated by setting the Individual/Group bit in the transmitter address to 1, and the address is called a *bandwidth signaling transmitter address*.

Figure 3-8 shows how the RTS and CTS work together to negotiate the bandwidth. The initiator of a frame transmission has a frame to transmit, and would like to transmit that frame over the full 80 MHz shown in the diagram. To acquire the channel, it sends a duplicated RTS frame across all four 20 MHz channels, indicating that it would like to acquire the whole channel. In Figure 3-8(a), the receiver performs a clear-channel assessment, finds that the entire 80 MHz channel is free, and sends a CTS indicating so. As a result of the exchange, the NAV, shown in the bottom of the picture, is set on all four channels so that any other networks will defer transmission.

[http://euro.econ.cmu.edu/resources/elibrary/auto/802dot11ac\\_A\\_Survival\\_Guide.pdf](http://euro.econ.cmu.edu/resources/elibrary/auto/802dot11ac_A_Survival_Guide.pdf) (Page 69).

34. The time period of the availability of channels is evaluated from the RTS frame received by the second 802.11ac device.

The RA field of the CTS frame shall be set to the nonbandwidth signaling TA obtained from the TA field of the RTS frame to which this CTS frame is a response. The Duration field in the CTS frame shall be the duration field from the received RTS frame, adjusted by subtraction of aSIFSTime and the number of microseconds required to transmit the CTS frame at a data rate determined by the rules in 10.7.

After transmitting an RTS frame, the STA shall wait for a CTSTimeout interval with a value of aSIFSTime + aSlotTime + aRxPHYStartDelay. This interval begins when the MAC receives a PHY-TXEND.confirm primitive. If a PHY-RXSTART.indication primitive does not occur during the CTSTimeout interval, the STA shall conclude that the transmission of the RTS frame has failed, and this STA shall invoke its backoff procedure upon expiration of the CTSTimeout interval. If a PHY-RXSTART.indication primitive does occur during the CTSTimeout interval, the STA shall wait for the corresponding PHY-RXEND.indication primitive to determine whether the RTS frame transmission was successful. The recognition of a valid CTS frame sent by the recipient of the RTS frame, corresponding to this PHY-RXEND.indication primitive, shall be interpreted as successful response, permitting the frame exchange sequence to continue (see Annex G). The recognition of anything else, including any other valid frame, shall be interpreted as failure of the RTS frame transmission. In this instance, the STA shall invoke its backoff procedure at the PHY-RXEND.indication primitive and may process the received frame.

<https://ieeexplore.ieee.org/document/7786995> (Page 1314).

35. The second 802.11ac device monitors for the availability of the secondary channel requested by the first 802.11ac device and checks if the CCA and NAV are idle and determines if the secondary channel is idle for the requested transmission period. On detection of the availability of the secondary channel, the second 802.11ac device sends a Clear To Send (CTS) frame confirming the availability of the requested secondary channel.

A STA that receives an RTS frame addressed to it considers the NAV in determining whether to respond with CTS, unless the NAV was set by a frame originating from the STA sending the RTS frame (see 10.22.2.2). In this subclause, “NAV indicates idle” means that the NAV count is 0 or that the NAV count is nonzero but the nonbandwidth signaling TA obtained from the TA field of the RTS frame matches the saved TXOP holder address.

A VHT STA that is addressed by an RTS frame in a non-HT or non-HT duplicate PPDU that has a bandwidth signaling TA and that has the RXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT equal to Static behaves as follows:

- If the NAV indicates idle and CCA has been idle for all secondary channels (secondary 20 MHz channel, secondary 40 MHz channel, and secondary 80 MHz channel) in the channel width indicated by the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT for a PIFS prior to the start of the RTS frame, then the STA shall respond with a CTS frame carried in a non-HT or non-HT duplicate PPDU after a SIFS. The CTS frame’s TXVECTOR parameters CH\_BANDWIDTH and CH\_BANDWIDTH\_IN\_NON\_HT shall be set to the same value as the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT.
- Otherwise, the STA shall not respond with a CTS frame.

A VHT STA that is addressed by an RTS frame in a non-HT or non-HT duplicate PPDU that has a bandwidth signaling TA and that has the RXVECTOR parameter DYN\_BANDWIDTH\_IN\_NON\_HT equal to Dynamic behaves as follows:

- If the NAV indicates idle, then the STA shall respond with a CTS frame in a non-HT or non-HT duplicate PPDU after a SIFS. The CTS frame’s TXVECTOR parameters CH\_BANDWIDTH and CH\_BANDWIDTH\_IN\_NON\_HT shall be set to any channel width for which CCA on all secondary channels has been idle for a PIFS prior to the start of the RTS frame and that is less than or equal to the channel width indicated in the RTS frame’s RXVECTOR parameter CH\_BANDWIDTH\_IN\_NON\_HT.
- Otherwise, the STA shall not respond with a CTS frame.

<https://ieeexplore.ieee.org/document/7786995> (Page 1313).



Duplicate frames are used to create dynamic bandwidth signaling in 802.11ac. Even if a network is occupying, say, 80 MHz of spectrum, it will send Beacon frames and carry out access control on its primary channel. It may interact with older 802.11a stations on its primary 20 MHz channel and 802.11n stations on its primary 40 MHz channel, and only occasionally transmit frames using the full 80 MHz bandwidth. For much of the time, a network will not need its full bandwidth. Therefore, 802.11ac extended the RTS and CTS to add *bandwidth signaling*. Normally, an RTS or CTS frame only works to clear the channel on which it is transmitted. When it is used in duplicate mode to clear out multiple channels simultaneously, this is indicated by setting the Individual/Group bit in the transmitter address to 1, and the address is called a *bandwidth signaling transmitter address*.

Figure 3-8 shows how the RTS and CTS work together to negotiate the bandwidth. The initiator of a frame transmission has a frame to transmit, and would like to transmit that frame over the full 80 MHz shown in the diagram. To acquire the channel, it sends a duplicated RTS frame across all four 20 MHz channels, indicating that it would like to acquire the whole channel. In Figure 3-8(a), the receiver performs a clear-channel assessment, finds that the entire 80 MHz channel is free, and sends a CTS indicating so. As a result of the exchange, the NAV, shown in the bottom of the picture, is set on all four channels so that any other networks will defer transmission.

[http://euro.econ.cmu.edu/resources/elibrary/auto/802dot11ac\\_A\\_Survival\\_Guide.pdf](http://euro.econ.cmu.edu/resources/elibrary/auto/802dot11ac_A_Survival_Guide.pdf) (Page 51).

The RA field of the CTS frame shall be set to the nonbandwidth signaling TA obtained from the TA field of the RTS frame to which this CTS frame is a response. The Duration field in the CTS frame shall be the duration field from the received RTS frame, adjusted by subtraction of aSIFSTime and the number of microseconds required to transmit the CTS frame at a data rate determined by the rules in 10.7.

After transmitting an RTS frame, the STA shall wait for a CTSTimeout interval with a value of aSIFSTime + aSlotTime + aRxPHYStartDelay. This interval begins when the MAC receives a PHY-TXEND.confirm primitive. If a PHY-RXSTART.indication primitive does not occur during the CTSTimeout interval, the STA shall conclude that the transmission of the RTS frame has failed, and this STA shall invoke its backoff procedure upon expiration of the CTSTimeout interval. If a PHY-RXSTART.indication primitive does occur during the CTSTimeout interval, the STA shall wait for the corresponding PHY-RXEND.indication primitive to determine whether the RTS frame transmission was successful. The recognition of a valid CTS frame sent by the recipient of the RTS frame, corresponding to this PHY-RXEND.indication primitive, shall be interpreted as successful response, permitting the frame exchange sequence to continue (see Annex G). The recognition of anything else, including any other valid frame, shall be interpreted as failure of the RTS frame transmission. In this instance, the STA shall invoke its backoff procedure at the PHY-RXEND.indication primitive and may process the received frame.

<https://ieeexplore.ieee.org/document/7786995> (Page 1314).

36. When the second 802.11ac device finds the availability of only a part of the requested secondary channel, it is indicated by a CTS frame with different parameter values.

The CTS frame (reservation response message) indicates the availability of the requested frequency band and indicates the mobile device to increase the bandwidth of transmission.

Figure 3-8(b) shows the dynamic bandwidth process at work. Just as in the previous scenario, the initiator begins by sending a duplicated RTS to all four 20 MHz channels in the desired 80 MHz channel. However, due to interference at the responder (say, from a colocated AP that has already taken control of two channels), it is not possible to send a CTS indicating the entire 80 MHz channel is free. Therefore, the responder sends a CTS frame on the two free channels, acquiring 40 MHz of spectrum for the transmission. With the RTS/CTS exchange complete, the initiator can send its frame using a 40 MHz transmission. Although it is a reduced channel bandwidth, the two 802.11ac devices have found and negotiated the maximum bandwidth available for transmission.

[http://euro.econ.cmu.edu/resources/elibrary/auto/802dot11ac\\_A\\_Survival\\_Guide.pdf](http://euro.econ.cmu.edu/resources/elibrary/auto/802dot11ac_A_Survival_Guide.pdf) (Page 69).

37. In view of preceding paragraphs, each and every element of at least claim 6 of the '905 Patent is found in the Accused Products.

38. ZTE has and continues to directly infringe at least one claim of the '905 Patent, literally or under the doctrine of equivalents, by making, using, selling, offering for sale, importing, and/or distributing the Accused Products in the United States, including within this judicial district, without the authority of Brazos.

39. ZTE has received notice and actual or constructive knowledge of the '905 Patent since at least the date of service of this Complaint.

40. Since at least the date of service of this Complaint, through its actions, ZTE has actively induced product makers, distributors, retailers, and/or end users of the Accused Products to infringe the '905 Patent throughout the United States, including within this judicial district, by, among other things, advertising and promoting the use of the Accused Products in various websites, including providing and disseminating product descriptions, operating manuals, and other instructions on how to implement and configure the Accused Products. Examples of such advertising, promoting, and/or instructing include the documents at:

- <https://www.zteusa.com/axon10pro>
- <https://www.zteusa.com/products/mobile-broadband/att-velocity-2>
- <https://www.zte.com.cn/global/about/news/408648>
- [http://enterprise.zte.com.cn/en/products/network\\_Infrastructure/switches/WLAN\\_AP/201711/t20171102\\_466053.html](http://enterprise.zte.com.cn/en/products/network_Infrastructure/switches/WLAN_AP/201711/t20171102_466053.html)

41. Since at least the date of service of this Complaint, through its actions, ZTE has contributed to the infringement of the '905 Patent by having others sell, offer for sale, or use the Accused Products throughout the United States, including within this judicial district, with knowledge that the Accused Products infringe the '905 Patent. The Accused Products are especially made or adapted for infringing the '905 Patent and have no substantial non-infringing use. For example, in view of the preceding paragraphs, the Accused Products contain functionality which is material to at least one claim of the '905 Patent.

#### **JURY DEMAND**

Brazos hereby demands a jury on all issues so triable.

#### **REQUEST FOR RELIEF**

WHEREFORE, Brazos respectfully requests that the Court:

(A) Enter judgment that ZTE infringes one or more claims of the '905 Patent literally and/or under the doctrine of equivalents;

(B) Enter judgment that ZTE has induced infringement and continues to induce infringement of one or more claims of the '905 Patent;

(C) Enter judgment that ZTE has contributed to and continues to contribute to the infringement of one or more claims of the '905 Patent;

(D) Award Brazos damages, to be paid by ZTE in an amount adequate to compensate Brazos for such damages, together with pre-judgment and post-judgment interest for the infringement by ZTE of the '905 Patent through the date such judgment is entered in accordance

with 35 U.S.C. §284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. §284;

(E) Declare this case exceptional pursuant to 35 U.S.C. §285; and

(F) Award Brazos its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

Dated: November 6, 2020

Respectfully submitted,

/s/ James L. Etheridge

James L. Etheridge  
Texas State Bar No. 24059147  
Ryan S. Loveless  
Texas State Bar No. 24036997  
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